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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,621	03/29/2004	Chien-Hsueh Shih	67,200-1168	2719
7590 TUNG & ASSOCIATES Suite 120 838 W. Long Lake Road Bloomfield Hills, MI 48302			EXAMINER WONG, EDNA	
			ART UNIT	PAPER NUMBER
			1795	
			MAIL DATE	DELIVERY MODE
			03/24/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/811,621

**Applicant(s)**

SHIH ET AL.

**Examiner**

EDNA WONG

**Art Unit**

1795

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-7,9,12,13 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,9,12,13 and 21-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

This is in response to the Amendment dated March 2, 2009. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

### ***Response to Arguments***

#### **Claim Objections**

Claim **9** has been objected to because of minor informalities.

The objection of claim 9 has been withdrawn.

#### **Claim Rejections - 35 USC § 112**

I. Claims **1-2, 4-7, 9, 12-13 and 21-24** have been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The rejection of claims 1-2, 4-7, 9, 12-13 and 21-24 under 35 U.S.C. 112, first paragraph, has been withdrawn in view of Applicants' amendment.

II. Claims **1-2, 4-7, 9, 12-13 and 21-24** have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The rejection of claims 1-2, 4-7, 9, 12-13 and 21-24 under 35 U.S.C. 112, second paragraph, has been withdrawn in view of Applicants' amendment.

Claim Rejections - 35 USC § 102/103

I. Claims **1-2, 4-7 and 21-22** have been rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Meine et al.** (US Patent No. 6,689,223 B1) and **INEOS Oxide** ([www.ineosoxide.com](http://www.ineosoxide.com), pp. 1-4).

The rejection of claims 1-2, 4-7 and 21-22 under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Meine et al. and INEOS Oxide has been withdrawn in view of Applicants' amendment.

II. Claims **9, 12-13 and 23-24** have been rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Meine et al.** (US Patent No. 6,689,223 B1) and **INEOS Oxide** ([www.ineosoxide.com](http://www.ineosoxide.com), pp. 1-4).

The rejection of claims 9, 12-13 and 23-24 under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Meine et al. and INEOS Oxide has been withdrawn in view of Applicants' amendment.

III. Claims **1, 4, 21 and 22** have been rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Bokisa** (US Patent No. 6,676,823 B1).

The rejection of claims 1, 4, 21 and 22 under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bokisa is as applied in the Office Action dated December 4, 2008 and incorporated herein. The rejection has been maintained for the following reasons:

Applicants state that the Examiner admits that Bokisa fails to disclose "wherein said composition is disposed as a suspended layer within said electrolyte solution, said suspended layer spanning said electrolyte bath container, said suspended layer of sufficient dimension to form a wetting layer on a substrate as said substrate is passed through said suspended layer into said electrolyte solution". As such, Bokisa fails to disclose or suggest Applicants instantly claimed invention.

In response, the composition is contained in the electrolyte bath container. Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim (MPEP § 2115).

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all of the structural limitations of the claim (MPEP § 2114).

**IV.** Claims **1-2, 4-7 and 21-22** have been rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Motoki et al.** (US Patent No. 6,911,138 B2).

The rejection of claims 1-2, 4-7 and 21-22 under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Motoki et al. is as applied in the Office Action dated December 4, 2008 and incorporated herein. The rejection has been maintained for the following reasons:

Applicants state that the Examiner admits that Motoki et al. fail to disclose "wherein said composition is disposed as a suspended layer within said electrolyte solution, said suspended layer spanning said electrolyte bath container, said suspended layer of sufficient dimension to form a wetting layer on a substrate as said substrate is passed through said suspended layer into said electrolyte solution". As such, Motoki et al. fail to disclose or suggest Applicants instantly claimed invention.

In response, the container holds the composition and metal electroplating electrolyte solution. What the container holds is not structural (hardware) to the electrochemical plating system because expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim (MPEP § 2115).

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all of the structural limitations of the claim (MPEP § 2114).

**V.** Claim 1 has been rejected under 35 U.S.C. 102(b) as anticipated by or, in the

alternative, under 35 U.S.C. 103(a) as obvious over **Gomes et al.** (US Patent No. 5,250,105).

The rejection of claim 1 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Gomes et al. has been withdrawn in view of Applicants' amendment.

### ***Response to Amendment***

#### ***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

I. Claims **2 and 5-7** are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Bokisa** (US Patent No. 6,676,823 B1) as applied to claims 1, 4, 21 and 22 above.

Bokisa teaches an electrochemical plating system comprising an electrolyte bath container, and wherein said electrochemical plating system further comprises an anode

(col. 7, lines 11-13).

The limitations of claims 2 and 5-7 further limits the contents thereof and expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim (MPEP § 2115).

II. Claims **9, 12-13 and 23-24** are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Bokisa** (US Patent No. 6,676,823 B1).

Bokisa teaches an electrochemical plating system comprising an electrolyte bath container, and wherein said electrochemical plating system further comprises an anode (col. 7, lines 11-13).

As to a copper electroplating electrolyte solution, said electrolyte solution **contained in an electrolyte bath container**; and a composition comprising an organic acid and a non-ionic polymer, said non-ionic polymer having a molecular weight of less than 1,000, said non-ionic polymer mixed with said organic acid, said non-ionic polymer selected from the group consisting of an alkoxylated alcohol, alkoxylated amine, and an alkylphenol alkoxylate, said organic acid selected from the group consisting of citric acid and acetic acid; wherein said composition consists of a suspended layer within said electrolyte solution, said suspended layer consisting of a continuous layer extending across a dimension of said electrolyte solution **in said electrolyte bath container**, said suspended layer of sufficient dimension to form a wetting layer on a substrate as said



substrate is passed through said suspended layer into said electrolyte solution, said electrolyte solution to carry out copper electroplating on said substrate comprising said wetting layer.

The container holds the copper electroplating electrolyte solution and composition. What the container holds is not structural (hardware) to the electrochemical plating system because expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim (MPEP § 2115).

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all of the structural limitations of the claim (MPEP § 2114).

As to the limitations of claims 12-13 and 23-24 further limits the contents thereof and expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim (MPEP § 2115).

**III.** Claims **9, 12-13 and 23-24** are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Motoki et al.** (US Patent No. 6,911,138 B2).

Motoki teaches an electrochemical plating system comprising an electrolyte bath

container, and wherein said electrochemical plating system further comprises an anode (= a Hull cell) [col. 6, lines 5-8].

As to a copper electroplating electrolyte solution, said electrolyte solution ***contained in an electrolyte bath container***, and a composition comprising an organic acid and a non-ionic polymer, said non-ionic polymer having a molecular weight of less than 1,000, said non-ionic polymer mixed with said organic acid, said non-ionic polymer selected from the group consisting of an alkoxyated alcohol, alkoxyated amine, and an alkylphenol alkoxyate, said organic acid selected from the group consisting of citric acid and acetic acid; wherein said composition consists of a suspended layer within said electrolyte solution, said suspended layer consisting of a continuous layer extending across a dimension of said electrolyte solution ***in said electrolyte bath container***, said suspended layer of sufficient dimension to form a wetting layer on a substrate as said substrate is passed through said suspended layer into said electrolyte solution, said electrolyte solution to carry out copper electroplating on said substrate comprising said wetting layer.

The container holds the copper electroplating electrolyte solution and composition. What the container holds is not structural (hardware) to the electrochemical plating system because expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim (MPEP § 2115).

A claim containing a "recitation with respect to the manner in which a claimed

apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all of the structural limitations of the claim (MPEP § 2114).

As to the limitations of claims 12-13 and 23-24 further limits the contents thereof and expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim (MPEP § 2115).

**IV.** Claims **1-2, 4-7 and 21-22** are rejected under 35 U.S.C. 102(a) or (b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Applicants' Admitted Prior Art** (AAPA) [specification, page 4, [006]].

AAPA teaches an electrochemical plating system comprising an electrolyte bath container, and wherein said electrochemical plating system further comprises an anode (= a typical standard or conventional electroplating system includes a standard electroplating cell having a bath container and a copper anode) [specification, page 4, [006]].

As to a metal electroplating electrolyte solution, said electrolyte solution ***contained in an electrolyte bath container***, and a composition comprising an organic acid and a non-ionic polymer mixed with said organic acid said non-ionic polymer selected from the group consisting of an alkoxylated alcohol, an alkoxylated amine, and an alkylphenol alkoxylate; wherein said composition consists of a suspended layer

within said electrolyte solution, said suspended layer consisting of a continuous layer extending across a dimension of said electrolyte solution ***in said electrolyte bath container***, said suspended layer of sufficient dimension to form a wetting layer on a substrate as said substrate is passed through said suspended layer into said electrolyte solution, said electrochemical plating further comprising an anode in said electrolyte solution to carry out metal electroplating on said substrate comprising said wetting layer.

The container holds the metal electroplating electrolyte solution and composition. What the container holds is not structural (hardware) to the electrochemical plating system because expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim (MPEP § 2115).

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all of the structural limitations of the claim (MPEP § 2114).

As to the limitations of claims 2, 4-7 and 21-22 further limits the contents thereof and expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim (MPEP § 2115).

**V.** Claims **9, 12-13 and 23-24** are rejected under 35 U.S.C. 102(a) or (b) as

anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over

**Applicants' Admitted Prior Art (AAPA)** [specification, page 4, [006]].

AAPA teaches an electrochemical plating system comprising an electrolyte bath container, and wherein said electrochemical plating system further comprises an anode (= a typical standard or conventional electroplating system includes a standard electroplating cell having a bath container and a copper anode) [specification, page 4, [006]].

As to a copper electroplating electrolyte solution, said electrolyte solution ***contained in an electrolyte bath container***, and a composition comprising an organic acid and a non-ionic polymer, said non-ionic polymer having a molecular weight of less than 1,000, said non-ionic polymer mixed with said organic acid, said non-ionic polymer selected from the group consisting of an alkoxyated alcohol, alkoxyated amine, and an alkylphenol alkoxyate, said organic acid selected from the group consisting of citric acid and acetic acid; wherein said composition consists of a suspended layer within said electrolyte solution, said suspended layer consisting of a continuous layer extending across a dimension of said electrolyte solution ***in said electrolyte bath container***, said suspended layer of sufficient dimension to form a wetting layer on a substrate as said substrate is passed through said suspended layer into said electrolyte solution, said electrolyte solution to carry out copper electroplating on said substrate comprising said wetting layer.

The container holds the copper electroplating electrolyte solution and

composition. What the container holds is not structural (hardware) to the electrochemical plating system because expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim (MPEP § 2115).

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all of the structural limitations of the claim (MPEP § 2114).

As to the limitations of claims 12-13 and 23-24 further limits the contents thereof and expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim (MPEP § 2115).

*In the telephone conversation with Applicants' representative on August 8, 2008, Applicants' should have indicated that the elected claims are directed to an apparatus and not a composition.*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDNA WONG whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edna Wong/  
Primary Examiner  
Art Unit 1795

EW  
March 22, 2009